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REPEATED SOUNDING

Lithuania, 2012

TABLE OF CONTENTS

Introduction	
CHAPTER 1. The theory of "Repeated sounding".	5
CHAPTER 2. Structuring the sound.	7
CHAPTER 3. The analysis of recorded material.	10
Explanations of graphics for analysis.	11
CHAPTER 4. Glossary with graphics, spectrums.	14
Last, but not at least...	30
SUMMARY	

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Music listening and creation are two different spheres. Each of those one requires special techniques or methods. In music listening most of the time each listener uses the methods of listening. Each work can be listened in more then 10 different types. The method of listening depends from what we want to hear and what we want to know from the sound.

In music / sound creation each of the author is making a little research of ways how to put differ sounds into one work. Some of the authors are calculating the time between each of the sound sample he want to use, another one is using the easiest way by putting all samples in software and playing them one by one or randomly.

In this work I'll try to discuss the little theory of my own, which I invent in a few months. The theory sound like the same types as mentioned earlier, but the unique of this theory is that the sound, which I use, is not the sound sample. The only sound samples in my recorded works are the field – recordings of rain, city noise and movie tape. Software synthesizers on demand, through the recording process, modulate the other sounds.

In the first chapter I'll discuss the main idea of the theory with detailed explanation how it can help in the creation of sound works, in the second chapter I'll introduce the analysis of my recorded tracks with this method of creation. For the clear understanding of what I done, I'll put also the graphics of each of the recorded tracks.

CHAPTER 1. The theory of "Repeated sounding".

Firstly when we say the phrase "repeated sound" we all start imagine the looped fragment from the different track we are using. This can be field – recording, dance music loop or finally the one note from synthesizer. At this case, repeated sounding is a little bit differs. The sound that we take or create in the piece of work is not looped, but it sounds again and again. That means the sound that we use don't have any time restriction. We can volume it up and it will be playing all day, all night, etc. The important thing of this is that we should to decide when we must to kill volume down and vice versa. Before the recording of the whole piece we should also decide the full length of the whole piece. It looks like the same as the Schillinger system, but at this case there is no need to calculate the time of each of the composition element. We only calculate the total length of composition. For instance we have chosen the five different sounds that we're going to use in the piece, so regarding our intuition we must to think about the total time length and finally we must to calculate it. If we play the first sound approx. the two minutes the other sound we can play 3 minutes, the other sounds for a minute. In general we calculated that the whole piece time would be 8 minutes. Of course in the calculated time we can arrange the sound parts how we wish, we can play the first piece of sound for a one-minute, second sound for one minute and the rest of the sounds for two minutes. At this case the order of sounds doesn't change the full length of composition.

The most important case in this theory is the perception of elements in each sound we use. It means, that we should think rationally about the structure of each sound. If we'll play just only one sound on the same volume, on the same level of transpose, it would sound a bit boring. For this reason repeated sounding helps to identify sound structures by calculating it. For the better calculation of the structures I always use the method of reduce listening. Most of the cases reduced listening help to identify the sound parameters used in the track. It identifies the rhythm, pitch, and volume, transpose, filter values. Those parameters give to us the perception how the sound is recorded, how it's created, and finally – how it can be changed.

On the process of recording the new sound piece, we should time and time again listen to the same voice and analyse its frequency rates of each structure. This is repeated sounding too. The same sound on the same frequency rate, firstly transforms our ears, for that reason we start to hear the same sound differently, secondly, the transformed sound is the parameter as the value for itself. After the transformation of the heard sound, when we are at the beginning of recording process, we're start to change the registries of high / mid / low. Here starts the playing with sound. Each of chosen synthesizer voice is modulated with different effects by changing its transposes, pitches. During the recording we once again change its value for better sounding of the full composition.

Generally, the analysis of the prepared effects and sounds helps us to understand how we want to use each of the effect, and how we interact literally with the parameters of the sound and efx. If we'll attentively read the information that we receive from the sound we'll easier understand the compositional structures of our preferred recording.

CHAPTER 2. Structuring the sound.

Most of the musicians who have the academically studied the composition of music, analyse music from its given notation. A little bit harder situation is with experimental electronic sound. I love to say, that the simple sound from the motor of vehicle doesn't have the notation. It is just only the sound, but if we want to use this recorded noise of vehicle in our creation? What should we do if we want to identify the various transposes and pitches of it?

The answers to the given questions will be simple. If we don't have the academic practice of notation, we can choose the music / sound structuring method. This method is usually based by the a priori perception of the material that we hear. The thing is, when we listen to the music or sound we hear the mix of different material. Now, when we take the track to listen we try to divide it into the small parts. Generally - it's dividing the track to individual samples. For example when we listen to the classics, we always are dividing the classical work into the parts of instruments. We usually try to remember where starts the part of piano or the part of cello and etc.

The idea of structuring the sound in experimental sound looks the same; only the difference here is that, usually in the experimental sound we hear the same sound. For example let's take Eliane Radigue works. If first time we'll listen it just for fun, we hear the same sound which lasts for one hour or more. When we start to listen to it more attentively, we hear more sounds. That more sounds I'm calling the structures. If I want to understand the work I should to divide it into the structures. The first structure or

better the main structure of the work is the long lasting sound. That means, the sound, which is playing all time in the track as background. If we want clearly to understand the thought of work, we should listen to the first structure one or more times. The first structure as background is the main part of composition that explains why the track is short or long, what sounds will be leading in front of the background, when it will be in the back. After the clear understand of background sound we start to find the other structures. Sometimes when the sound resonate our ears we hear the same sound differently, for that reason looks like track have more structures then we hear.

The structuring in the experimental sound creation is the same sound dividing to the parts, but here it differs only that, we are dividing the sounds, which we know very well. Knowing the sounds very well let to us create the structures how we want or how we imagine the work. Of course when author structuring the work he should think philosophically in that side, what he want to say for the listener or finally what message he is going to send to the audience.

Other thing of structuring the sound is the creation of virtual folders from effects. That means, through the creation process we'll divide nude sound to the virtual folder of non-effected sound to folder called effected sound. Those two folders manipulate each other in the structures of sound. Once a time sound comes from non-effected folder, next time sound comes from effected folder. It mixes together and looks like the one structure of sound, but actually it is two different structures. The effect structure and the sound structure. Commonly I can state that we always use the sound, which plays on the same levels and transpose. Only the used effect changes the sound structure, because the used effect creates the matter for sound interaction with exf.

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CHAPTER 3. The analysis of recorded material.

On the last chapter I'll try to explain the "Repeated sounding" method more detailed. As were mentioned in the last two chapters, this method requires the methods of structuring the sound and analysis of elements used or been used in the sound. In each graphic figure of the recorded material (the recorded material is as a part of explanation attached with this document), are shown the main sounds used in each of five compositions, also each of the used efx is graphically drawn on the main sound wave. After the composition graphics I'll decided to put the track spectrum of frequency analysis. That lets us more clearly understand and analyse the sound that we're processing on the recording. Each of frequency rate gives the parameters how we must reduce the volume levels of one or another sound.

In nowadays the software of music producing gives the opportunities to use those software's in wide spectrum. We can see the various ranges and values of the effects, pitch, transpose and volume. I took that opportunity and analysed my recorded material detailed as I wished and how I was imagine my sound graphically. Personally for me, it become the further step to music perception and improves of my skills in experimental sound creation.

For better understanding of each work system and parameters I divided them to individual sub-chapters. That will make to see every work in the concrete details.

Explanations of graphics for analysis.

First work in the attached recordings is called "Static piece for movie tape crackles". This track is called like this for very simple reason, because before the deciding what should be and what should contain each of the work, I looked for many of the field-recordings made by myself, and finally thought that the calm noise given from the movie tape lets to dive into the sound very deeply and in some cases this sound lets to feel the relaxation of the sound we hear.

Movie tape crackles for me looked very static sound; sometimes it looks like the electric impulses from generators. That influences to create static experimental sound, where I choose other static and non-change sounds in all composition. For this I had chosen simple sound from the sine oscillator. Sine oscillator sound usually has the same pitch and transpose, no matter how you change the pitch – from 12.0 or from -12.0. It flows the same. Difference is only that sound of changed pitch. But what I mean nothing changes – the speed of sound is the same.

Changing the speeds of each sine oscillators were made by the same oscillator sound connection to the first, second and vice versa. When the same sound of sine was connected with the same sine, the main sound had a small vibrato.

On the figures from 4.1. to 4.5., graphically are shown the each of the sine oscillator volume level and the value of used effect. For shown parameters I used my recorded set automation to detect at what value at the moment were the sounds, when

it was played in the recording. The gain from -69.0 dB shows the first point where the sound starts; the value of 1.0 dB shows the highest volume level of track playing. Analogically the values of -1.0 dB or -44.0 dB's show the cutting of sound level.

The percentage in the graphics shows the usage of parameter like "Dry/Wet" of "Grain delay" effect, "Flanger" effect, and "Phaser" effect. The highest percentage like 99% means the full "Dry/Wet" parameter using on the sound structure, analogically the lowest percentage like 0.0% shows the full cut-off of the used efx.

In the figures like 4.4.1, 4.4.2. and 4.5.2. Are shown the frequency amounts of "Erosion" effect*, "Grain delay" pitch amount and "Phaser" effect frequency amount. Those amounts in the shown graphics are marked in values of Hz or kHz.

The signs like "C", "1L" or "37R" explain the used sound volume panning from the neutral position of speakers to left speakers and right speakers. The number before the letters shows the value of how much was turned the sound frequency to right of left. Sound panning parameters are drawn in figures 4.4 and 4.5.

The values without any sign like 0.18 or 24.8 shows the used synthesizer, at this case in all recorded works are used the sine oscillators. The numbers without any values are the amounts of volume, pitch, transpose. In each graphic line that shows the values are written names of the elements. For instance "Sine 1 (Volume)" means that it is the sine oscillator, and that line shows that sound level of volume.

* Chosen "Erosion" effect makes sound softly distorted, in some cases it can re-pitch the sound with its "sine" function.

This system of showing the repeated sounding helps to visualize the created sound in all values what we use before and after the recording. Firstly when we record the full piece of our work, by studying the parameters we can realise at what value was used one or another effect. After the studying of parameters through the listening process we can arrange the changes for each of effect and process the new and technically repaired work with personally calculated values.

CHAPTER 4. Glossary with graphics, spectrums.

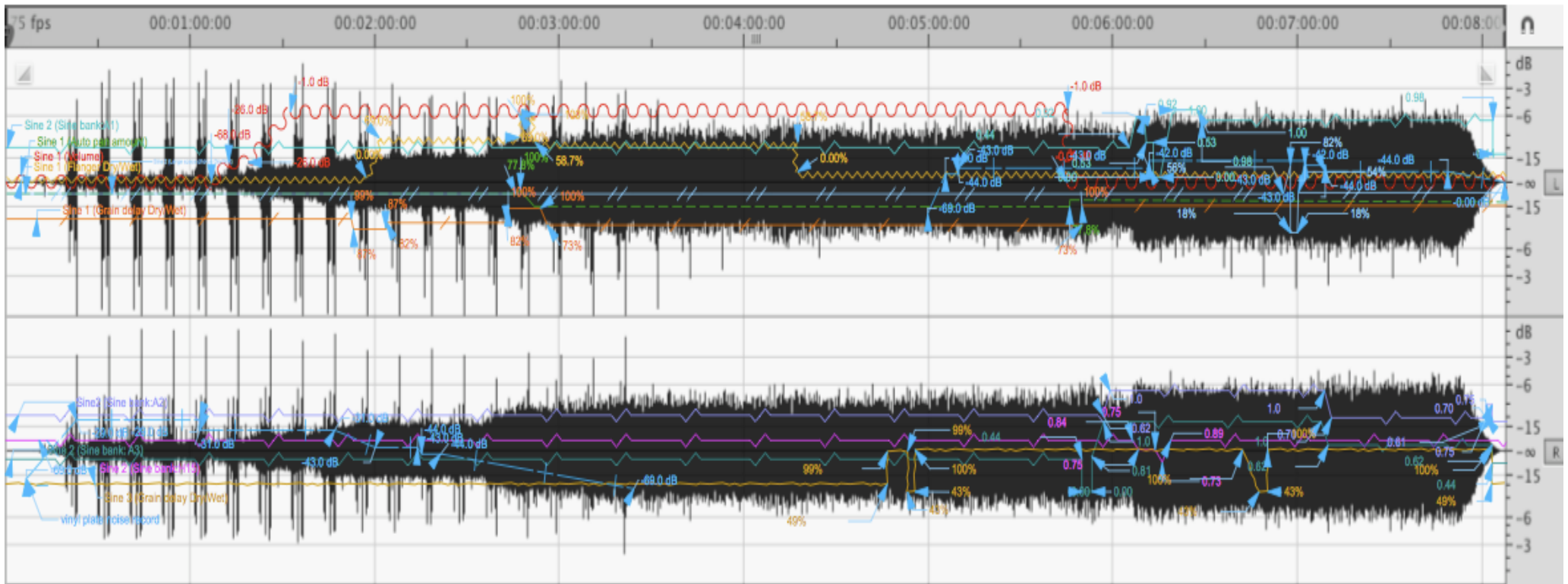


Figure 4.1. The graphic of audio track "Static piece for movie tape crackles". Track created from 2 sine oscillator banks, the recording of movie tape. In audio work for processing the sound were used "Grain delay", "Flanger" effects.

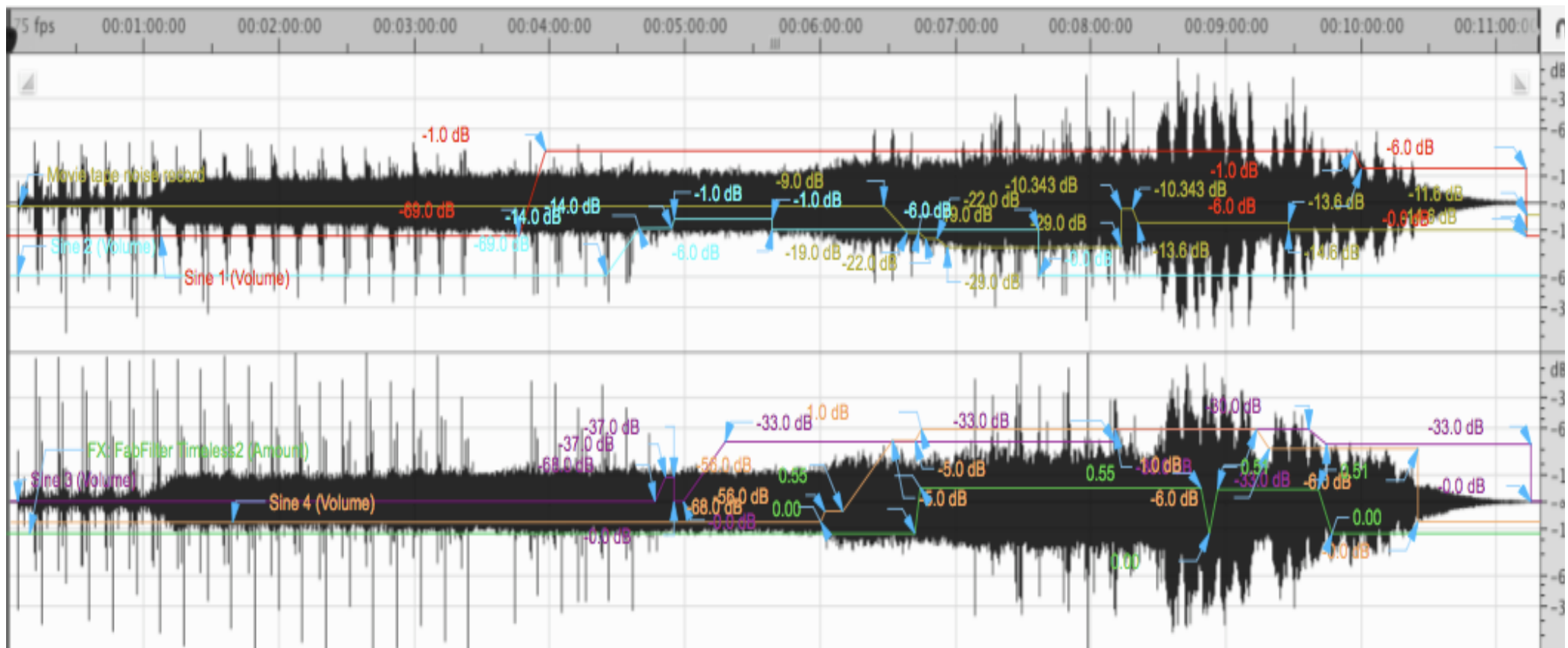


Figure 4.2. The graphic of audio work “Grained piece for movie tape crackles”. Audio work created from 4 sine oscillator banks, the recording of movie tape. Used effect – “FabFilter Timeles2” delay.

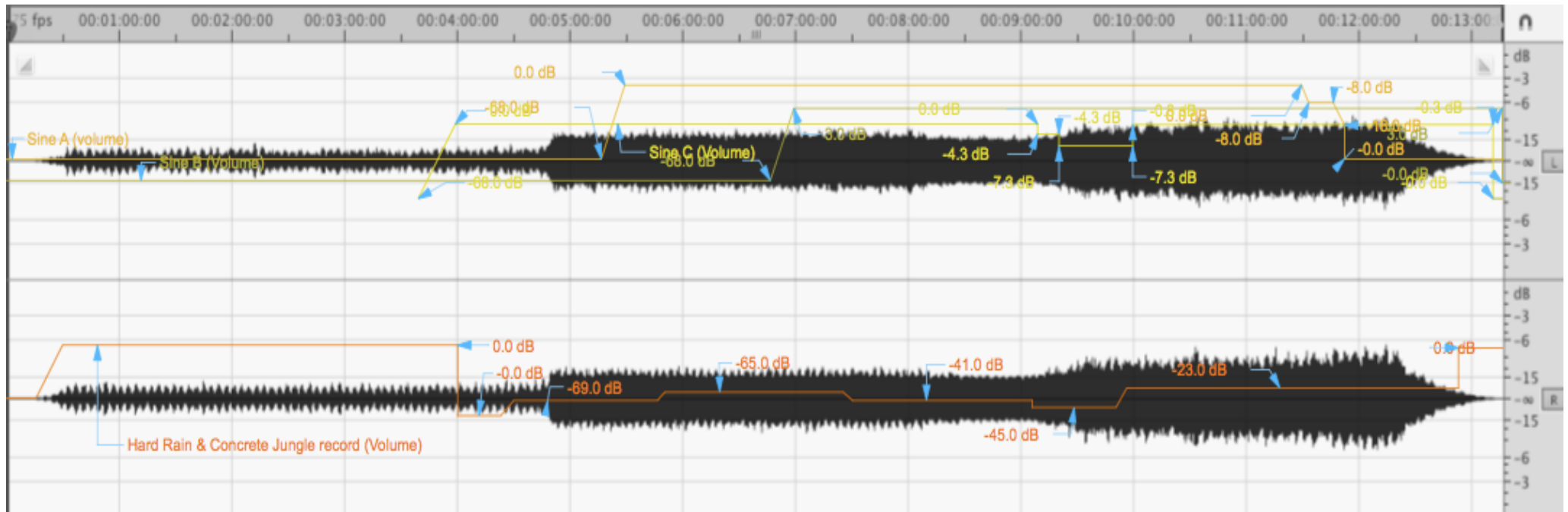


Figure 4.3. The graphic of audio track "Piece for rain & concrete jungle field – recordings". Audio work created from 5 sine oscillator banks (the analysis graphic of oscillator named "Sine D" given in figure 4.3.1. and the oscillator named "Sine E" analysis graphic given in figure 4.3.2.) In audio work also were used two field – recordings – hard rain recording and concrete jungle recording. Effects in work: 3x "Grain delays".

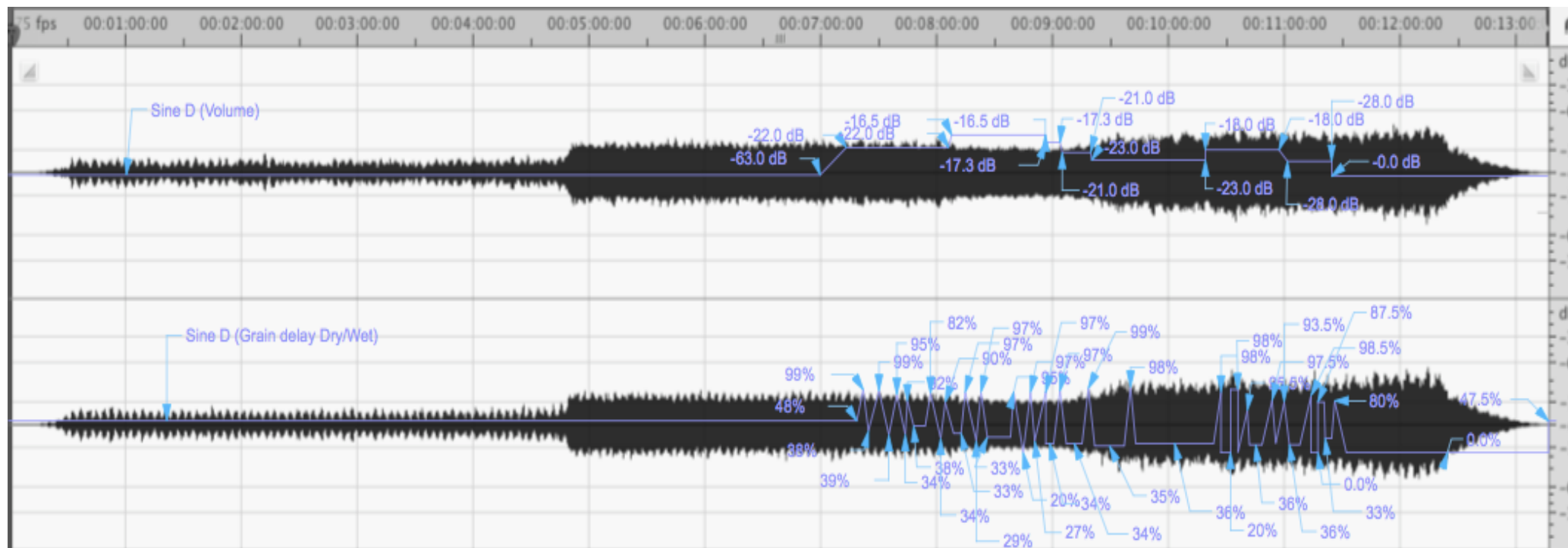


Figure 4.3.1. "Sine D" oscillator bank volume and amount of "Grain delay" effect.

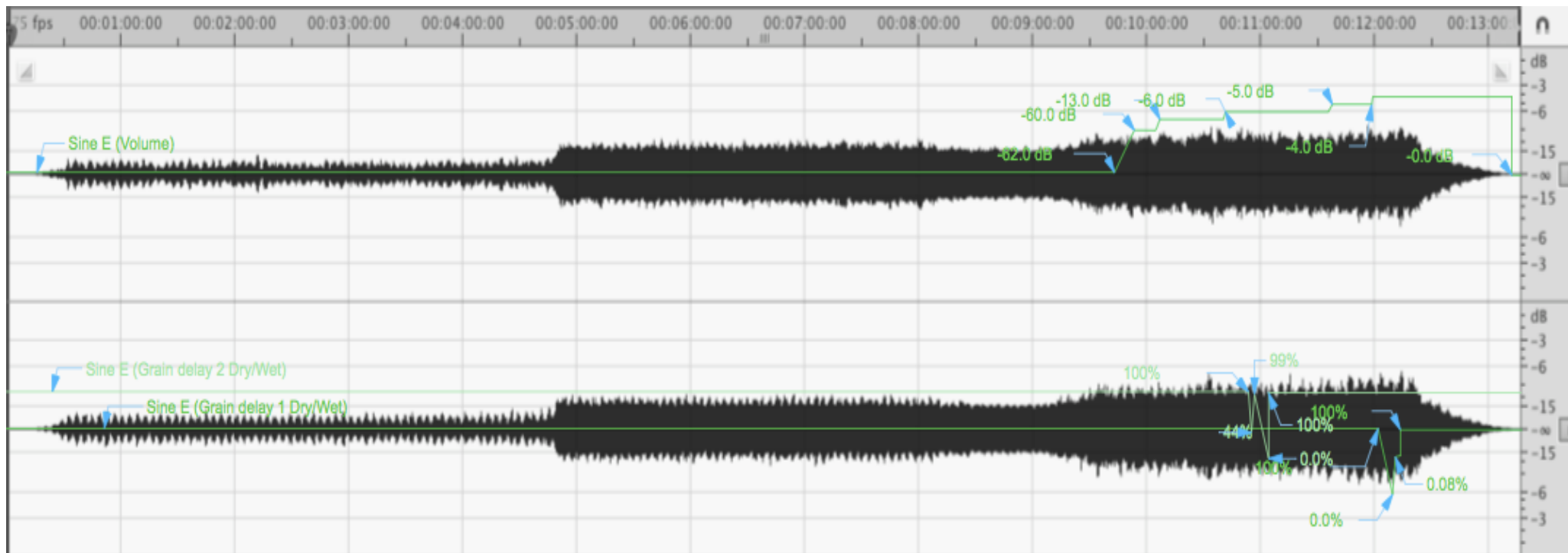


Figure 4.3.2. "Sine E" oscillator bank volume and amounts of 2x "Grain delay" effects.

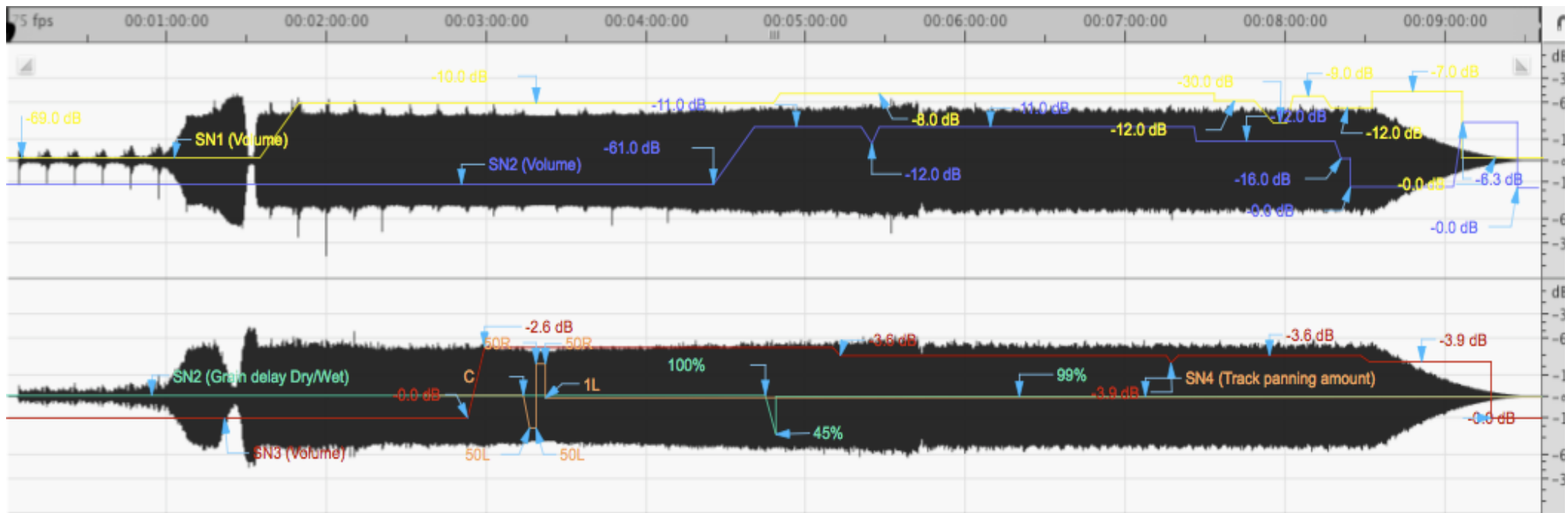


Figure 4.4. The graphic of audio track “Equalized piece for metal box recording”. In audio work used 4 oscillator banks with metal box recording. In the full piece used 3x “Grain delay” and one “Erosion” effects. (The analysis sheets of metal box recording and oscillator bank called “SN4” given in figures 4.4.1. and 4.4.2.).

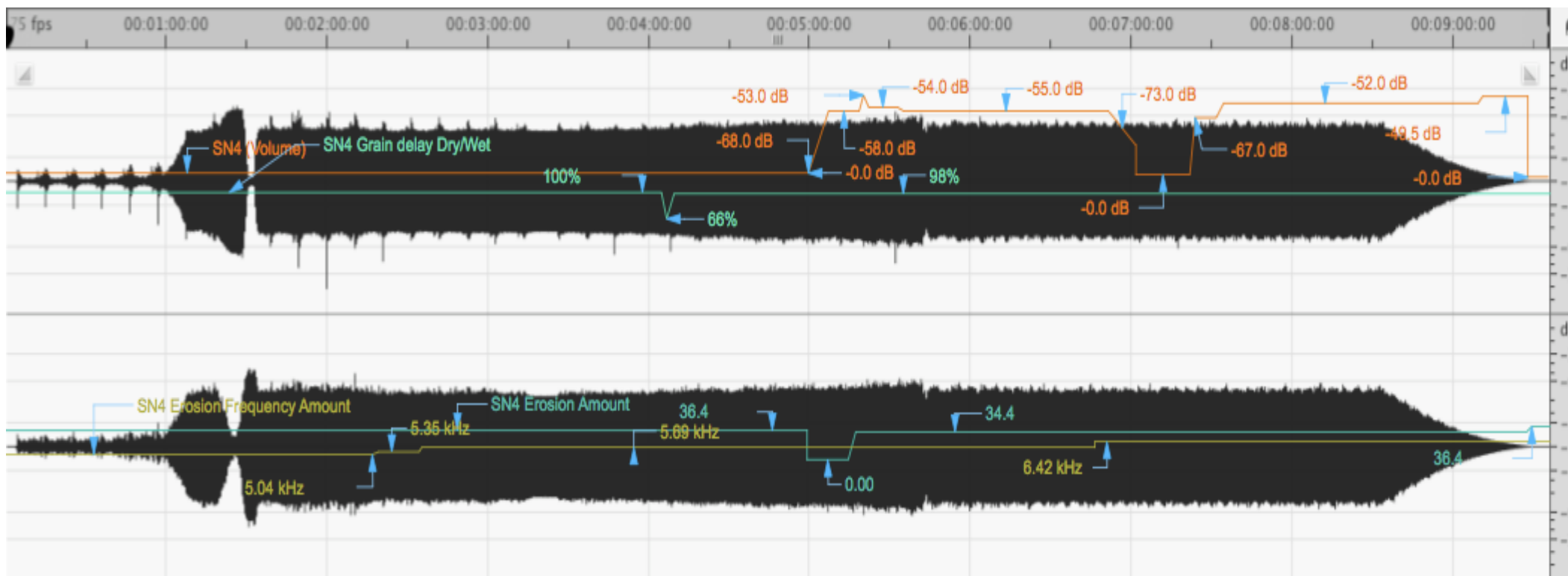


Figure 4.4.1. “SN4” oscillator bank volume, “Grain delay” amount, “Erosion” frequency amount and effect amount.

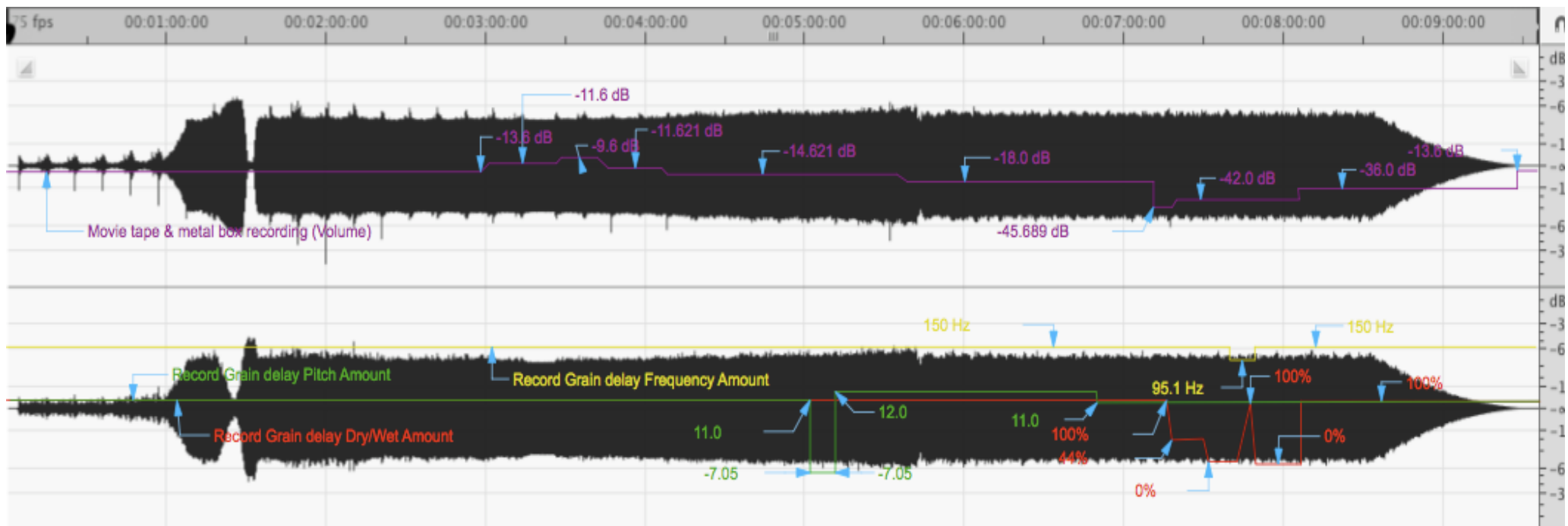


Figure 4.4.2 Metal box recording volume and amounts "Grain delay" frequency, pitch, and Dry/Wet.

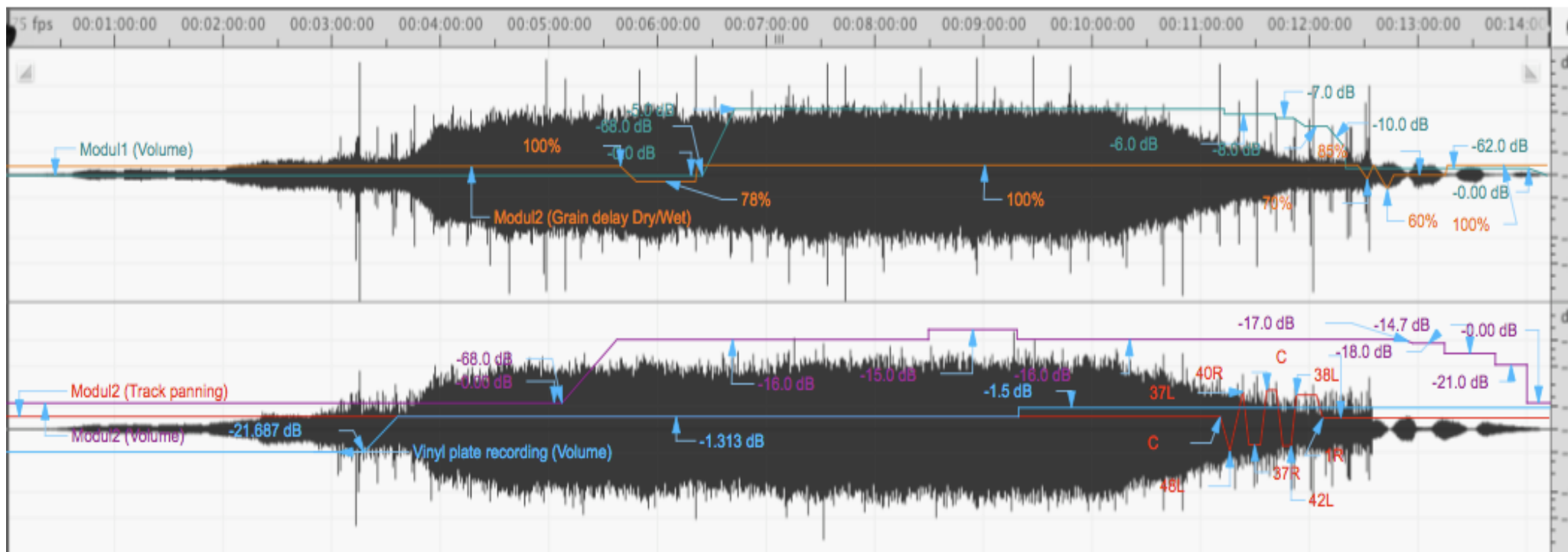


Figure 4.5. The graphic of audio work "Slow distorted piece for vinyl plate crackles". Audio work compose from 4 sine oscillator banks and the field – recording of vinyl plate noise. Used effects – 4x "Grain delay", "Phaser" and "Erosion". (The sine oscillators called "Modul 3" and "Modul 4" are given in figures of 4.5.1. and 4.5.2.).

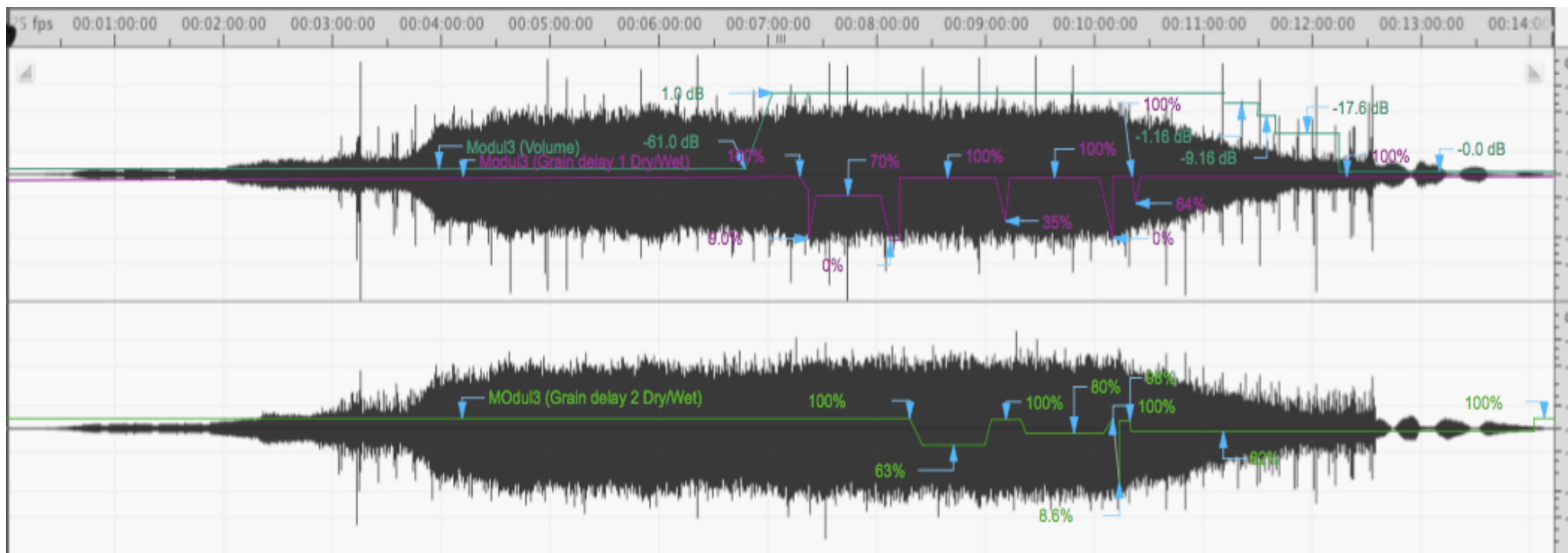


Figure 4.5.1. "Modul3" oscillator bank volume and amount of 2x "Grain delay" effects.

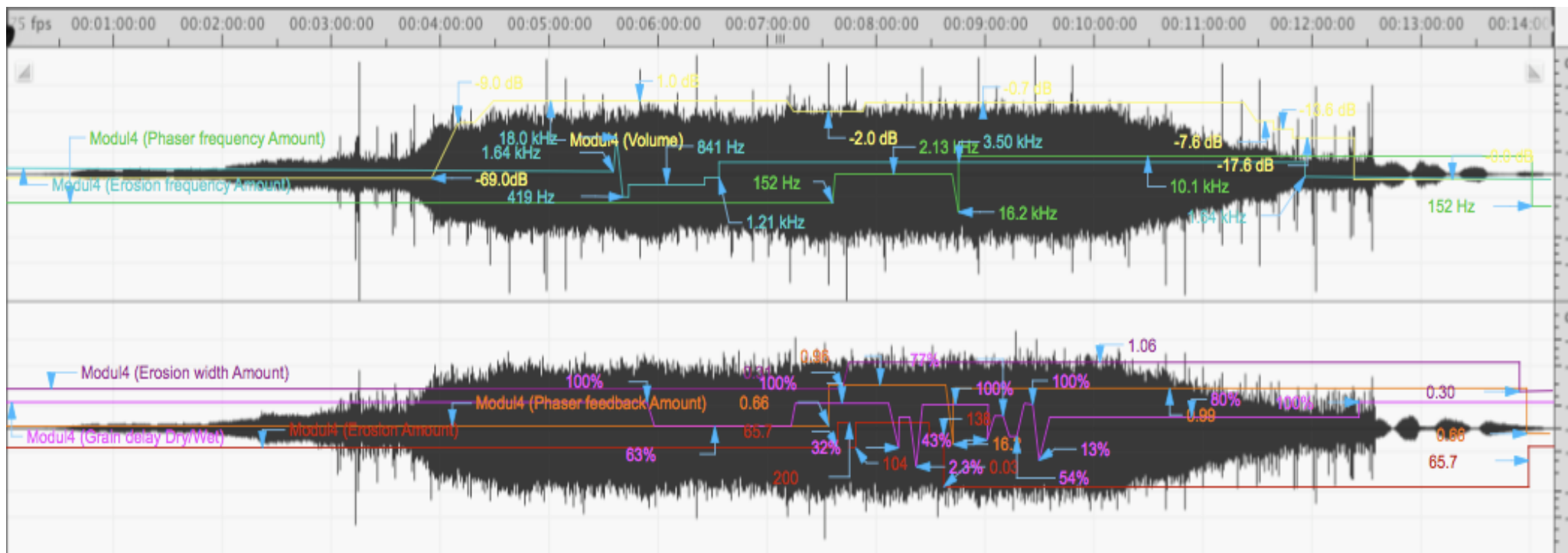
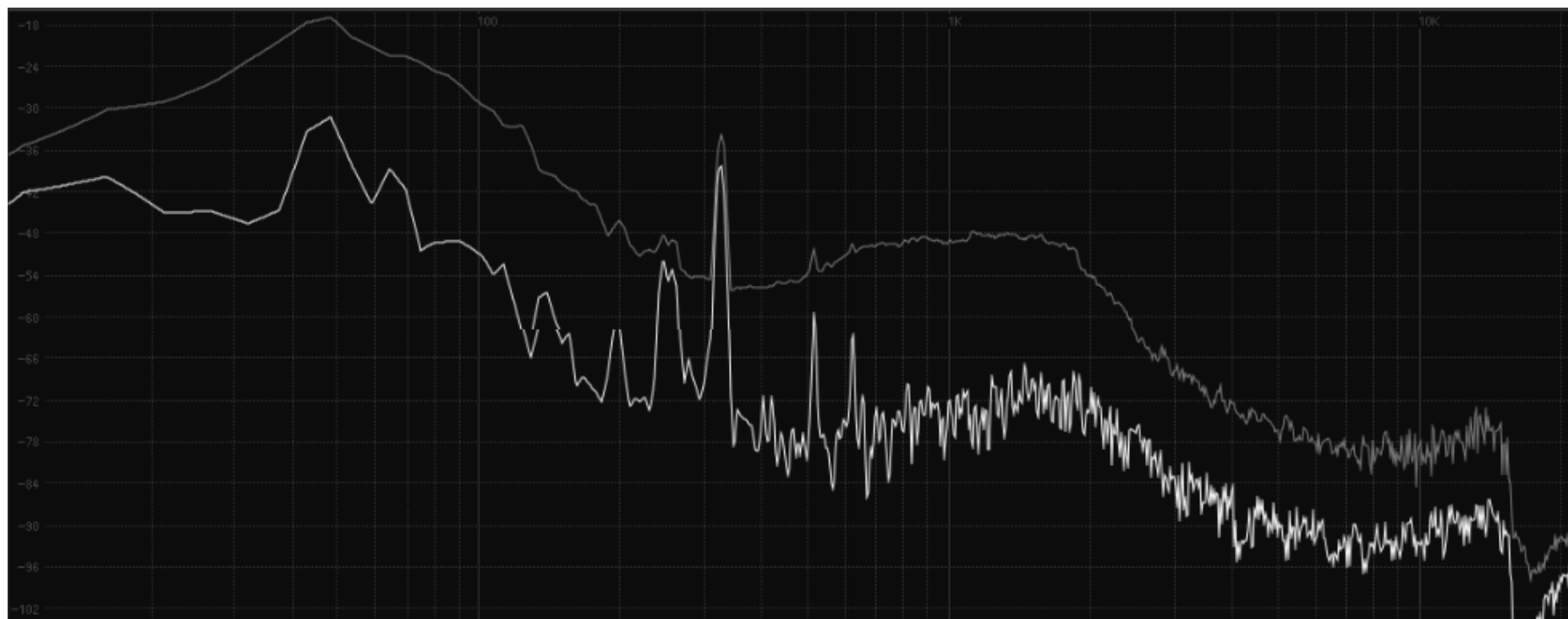
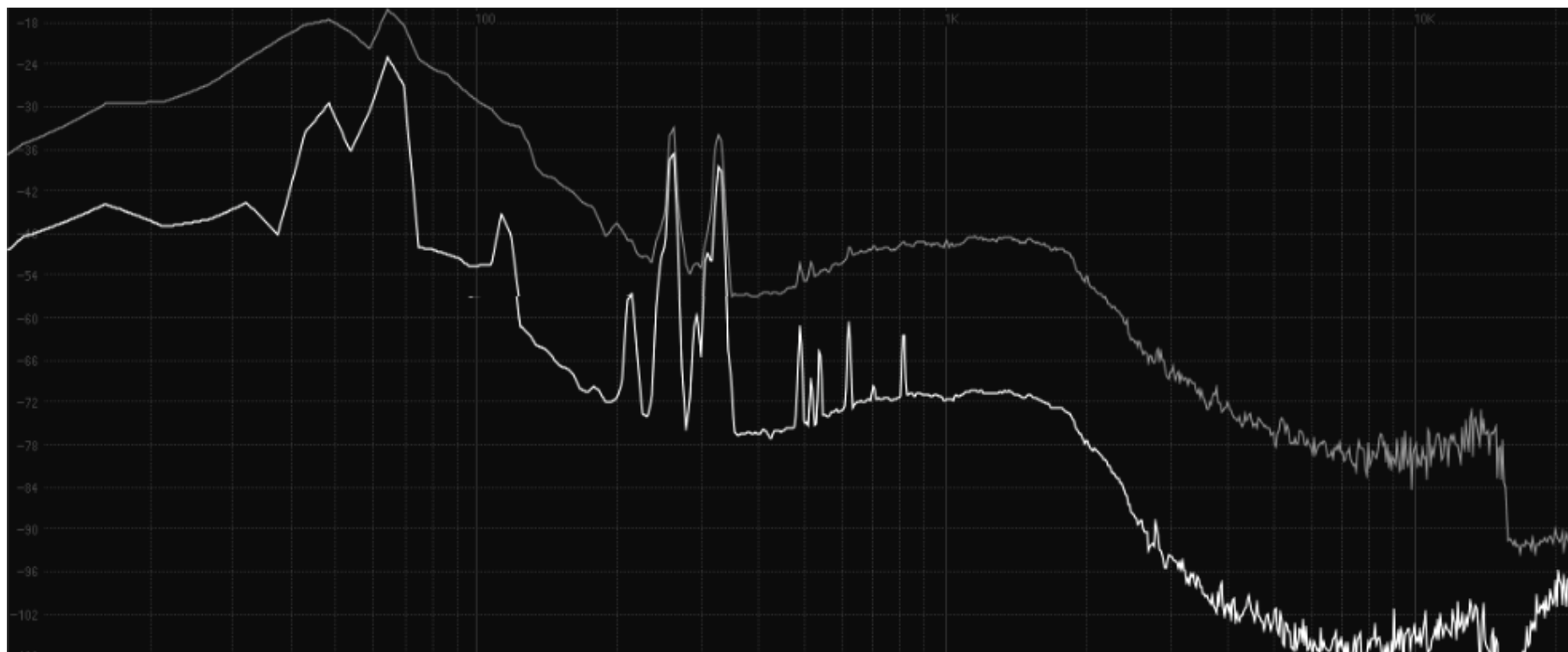


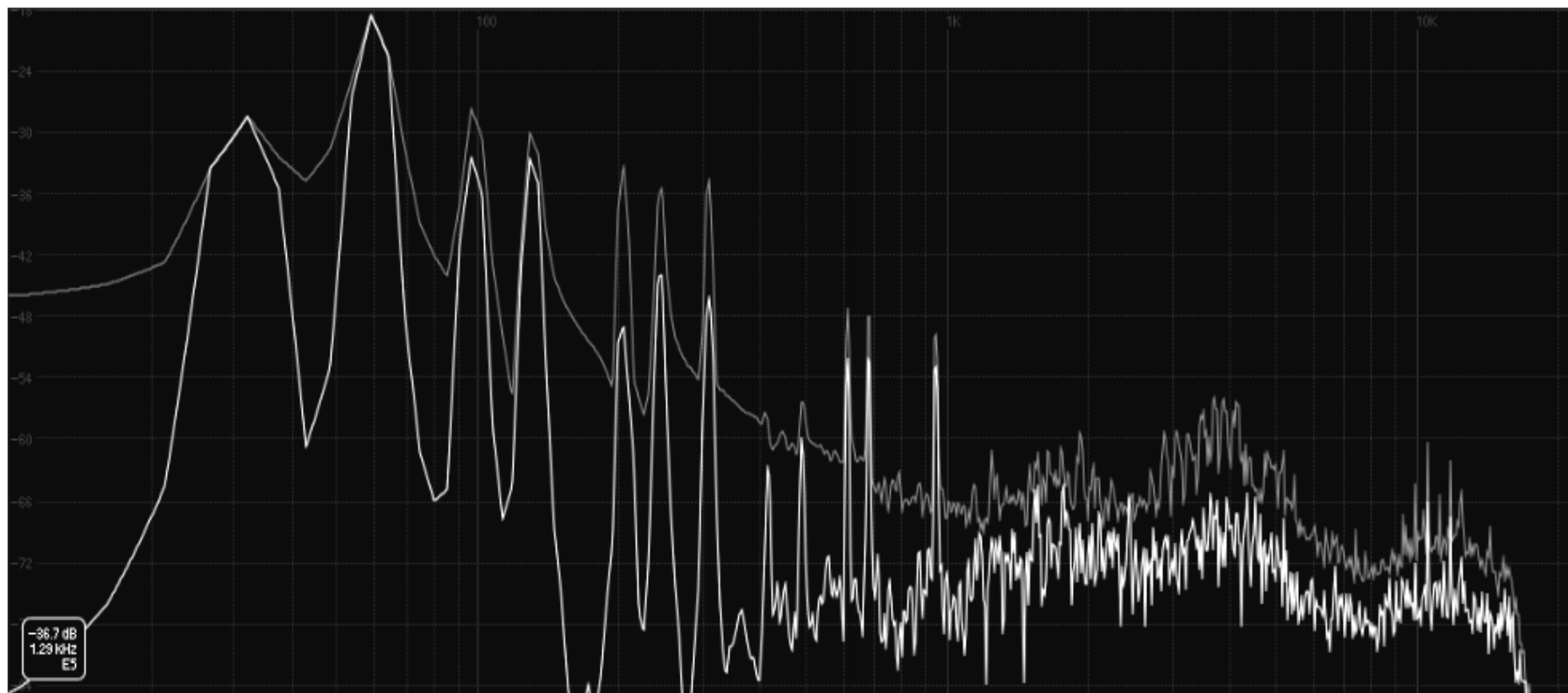
Figure 4.5.2. "Modul4" oscillator bank volume levels and amounts of: "Phaser" frequency; "Phaser" feedback, "Erosion" frequency; "Erosion" width; "Grain delay" Dry/Wet.



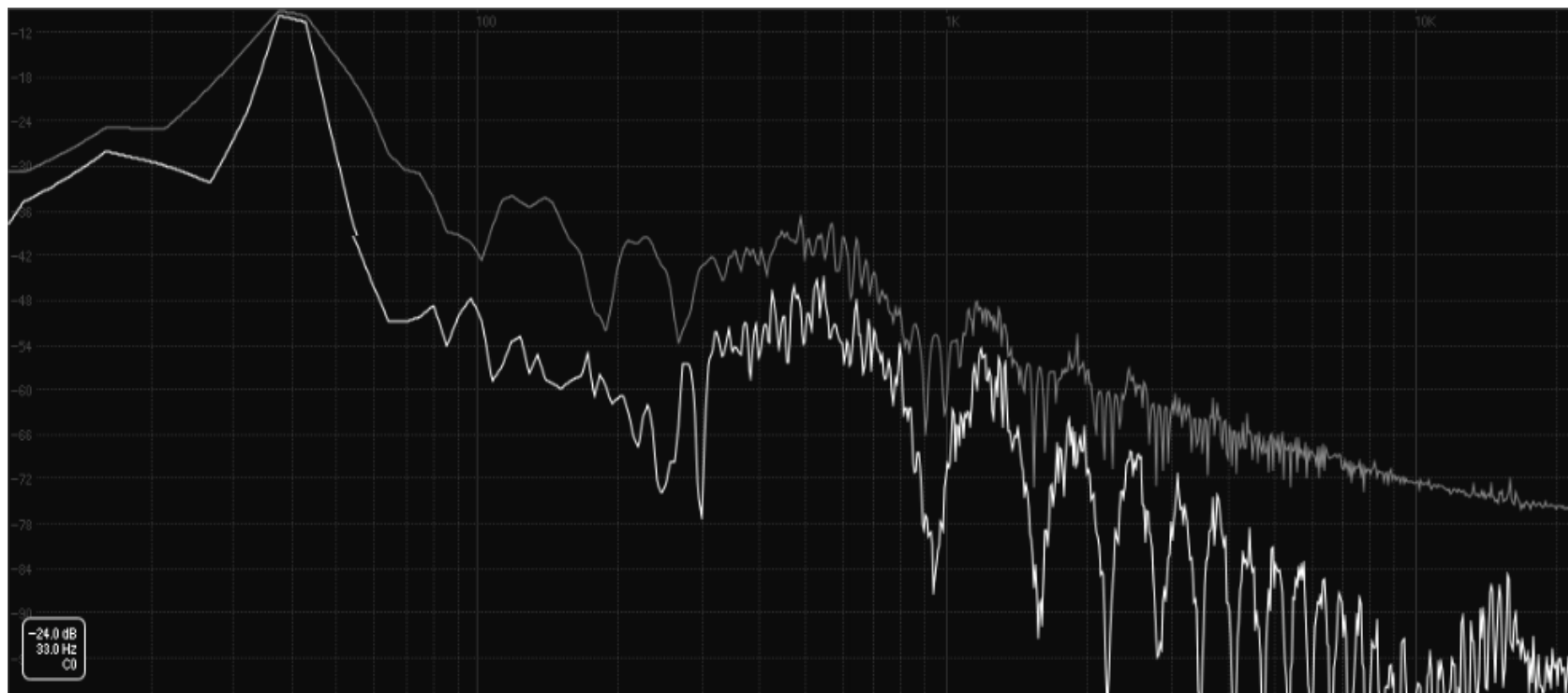
Spectrum of frequency analysis for audio work "Static piece for movie tape crackles".



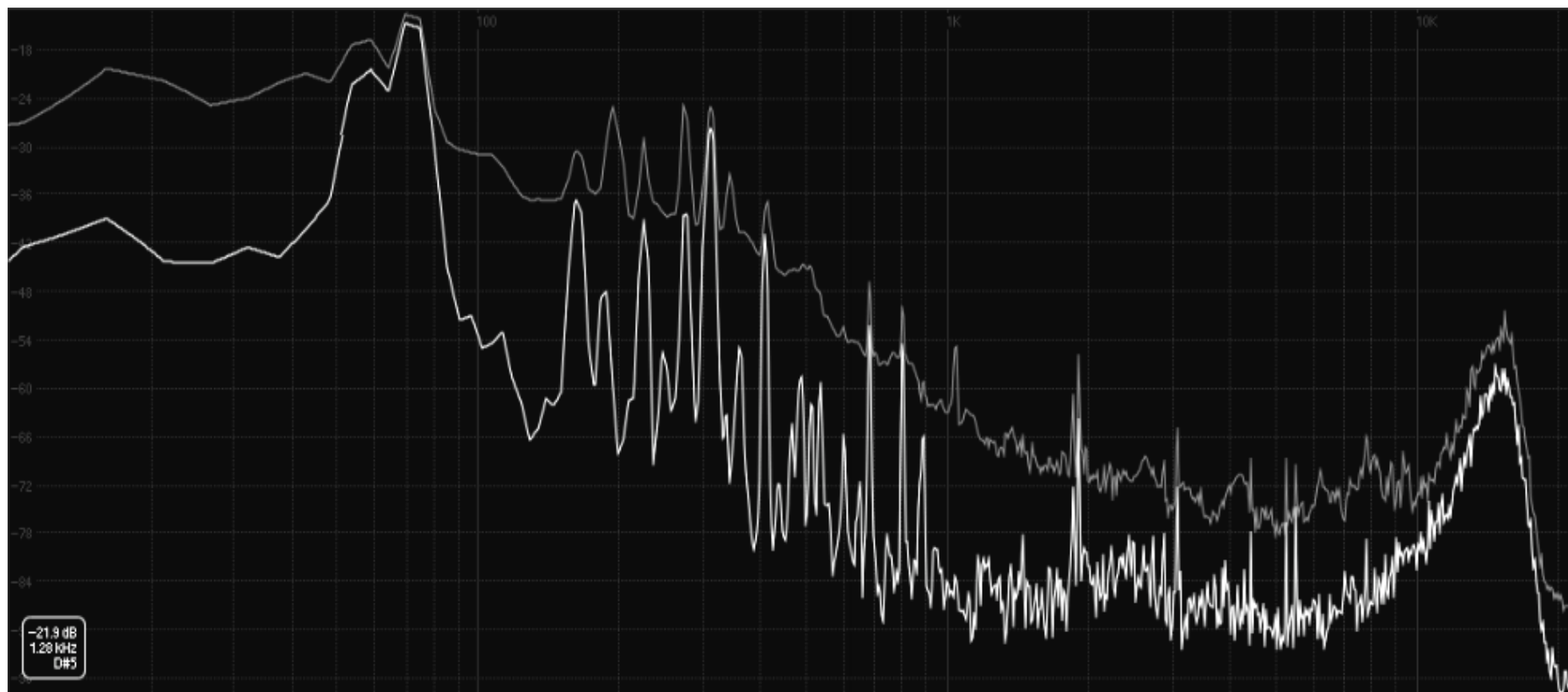
Spectrum of frequency analysis for audio work "Grained piece for movie tape crackles".



Spectrum of frequency analysis for audio work "Piece for rain & concrete jungle field – recordings".



Spectrum of frequency analysis for audio work "Equalized piece for metal box recording".



Spectrum of frequency analysis for audio work "Slow distorted piece for vinyl plate crackles".

Last, but not at least...

After the long researches of experimental sound theories and types of those theories, we can individually come to conclusions, that each sound is the philosophy of creation that sound. Philosophy for that reason, sound, which is created or performed by us, requires lots of thinking, lots of cultivating it. Before the creation process we are intuitively searching the interesting ways to show our thoughts, to express our emotions. Sound or music is emotion, which comes from author. Author analysis the fields of various sounds, the libraries of various techniques of music performing, and at the end of analysis he gives to the audience the final result of himself. That is modulated, recorded, analysed sound, which kisses our ears by day and by night.

The theories made from creator become the compress document in 5 or 13 minutes. We usually don't care how it was made, what was the thinking at the first point of creation. If one day we'll start to explore more attentively the sound, we'll found in it more then voice. We'll found in it sound structures, that looks like small "Lego" cube.

We hear the sound, so why we don't use the opportunities to take the information from it?

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SUMMARY

The sound structuring, the repeated sounding are the main topics of the written work. In every paragraph of the chapter are described the personal position and opinion in the understanding of experimental sound creation and using the personal sound performing and recording theory which is influenced by ideas from sound artists, composers, and finally the philosophy. All theory is based by a priori experiences from living with the sound. The work is written in understandable language for everyone, without any special terms, for that reason this work will be very simple readable for each group of people, starting from people who have academic experience, finalising with people who are only the listeners of experimental sound.